

**High-Cost Medical Staffs: A Policy Option
for Controlling the Volume of Physician
Services in the Hospital**

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INTRODUCTION

It is widely recognized that the growth in Medicare physician service expenditures is out of control.¹ Medicare expenditures are one of the fastest growing components of the federal budget and physician expenditures are one of the fastest growing components of Medicare. Much of the increase in physician expenditures is attributable to growth in the volume and intensity of services. Private insurers and the Medicaid program also face rapid expenditure increases.

To address growth in physician services and to correct historical fee inequities, Congress reformed Medicare physician payment in 1989. The reform had three parts: (a) a fee schedule based on relative value units to control prices and correct historical fee inequities; (b) limits on physician billings above the fee schedule amounts to protect beneficiaries from high out-of-pocket costs; and (c) volume performance standards (VPS) to control service volume and intensity growth. The objective of VPS is to create a risk pool of physicians so that physicians can see that future fee increases for the pool as a whole depend on their behavior. Current Medicare VPS puts all U.S. physicians into a single pool and ties future fee increases to growth in expenditures per beneficiary (after adjusting for growth in beneficiary population, prices, and certain other factors).

The push for national health care reform has been motivated largely by the need to improve access. More recently, however, several health care reform proposals have included cost controls, often in the form of national spending caps and global budgets.² Although not yet completely

¹Medicare physician expenditures increased from \$2.9 billion and 20 percent of benefit payments in 1975 to \$28.9 billion and 27 percent of benefit payments in 1990--a 16.6 percent annual rate of increase.

²See proposals by Congressman Pete Stark, Senator Peter Domenici, and Presidential nominee Bill Clinton.

specified, these national caps and global budgets are similar to VPS in that they would treat physician services as an undifferentiated whole.³ Global budgets differ from VPS by virtue of being broader in terms of payers (e.g., private, Medicare) and services (e.g., physician, hospital).

There are two problems with uniform nationwide approaches such as these. First, many observers believe that incentives for the individual physician are weak because, for example, under VPS the number of physicians who share responsibility is far too large to have a major impact on individual physician behavior (Rice and Bernstein 1990). If so, VPS simply becomes a budget device for limiting total physician spending, with no effective incentives for cost control facing individual physicians. Given one's outlook on the problem, this may or may not be undesirable. However, unless drafted carefully, these approaches can fail as budget devices as well.⁴ Second, VPS is inherently inequitable, because all physicians (whether profligate or cost-conscious in their individual treatment patterns) are dealt with the same way.

For VPS to truly affect physician behavior, the risk pool must be smaller. In fact, making even as few as a dozen physicians jointly responsible might not contain costs unless the physicians in the pool develop a structure that allows them to make joint decisions. Any elaboration of VPS ideally would be designed around some form of physician organization.

Medical staffs of hospitals are a promising organizational structure for VPS or for other approaches to controlling service volume. Most physicians in the country belong to at least one medical staff, and identifying services provided by medical staffs is straightforward. Although most medical staffs are not highly organized, all staffs have some structure. Changing the

³For example, they would not disaggregate by geographic location, type of service, or specialty.

⁴As drafted, for example, VPS has several weaknesses. No matter how much expenditure growth exceeds the VPS standard, the update factor is lowered by no more than 2 percentage points. Furthermore, any increase in volume and intensity in excess of the standard is incorporated into the payment base the following year and, thus, into the growth standard for future years.

incentives for physicians practicing in hospitals would give medical staffs incentives to develop their structure further in order to contain costs.

This paper develops policy alternatives that focus on risk pools for Medicare inpatient physician services organized around hospital medical staffs. But there are three reasons for starting with inpatient physician services. First, the medical event (i.e., hospital admission) and the reason for the event (i.e., a diagnostic related group or DRG) are clearly defined. Second, although growing less rapidly than noninpatient services (see next section), in-hospital physician services are growing faster in volume and intensity than almost all items in the federal budget. Third, and most fundamental, the medical staff is an organizational structure that is already available to help contain the cost of inpatient physician services. No clear structure yet exists for other physician services.

Two other points are worth making in this connection. First, because the objective of a medical staff policy is to provide physicians with a workable mechanism to control volume and intensity, it is unlikely to yield large budgetary savings in the first year. Its impact is likely to grow substantially over time, however, and the cost-saving would be focused on the physicians who truly need discipline. Global caps hit the cost-conscious and profligate physicians alike, raising immediate issues of equity. Second, a medical staff policy is a good initial strategy because it could be easily integrated at a later stage with other policies to control total physician expenditures or noninpatient physician expenditures. For example, a medical staff policy could be implemented in conjunction with the current national VPS or in conjunction with subnational targets defined by state, specialty, or type of service (Holahan and Zuckerman 1992) for noninpatient services. Similarly, it could be implemented for the Medicare fee-for-service sector within a policy with strong incentives to expand HMO enrollment.

This report builds on previous technical research (Miller and Welch 1991) and is an abbreviated version of another report (Welch and Miller 1992).⁵ The second section demonstrates that inpatient physician expenditures constitute a cost-control problem of major dimensions. The next two sections describe the basic characteristics of a medical staff volume control policy and the advantages and disadvantages of three medical staff policy options. The fifth section outlines our preferred option, which focuses on high-cost medical staffs. How to design such a policy is discussed next, followed by a discussion of issues such as the impact on quality of care and the switching of physicians among medical staffs. How such a policy might evolve is touched on in the concluding section.

GROWTH OF INPATIENT PHYSICIAN EXPENDITURES

In 1989, inpatient physician expenditures were 37 percent of total physician expenditures. Between 1986 and 1989, inpatient physician expenditures grew in real terms at an annualized rate of 4.80 percent. Although inpatient physician expenditures are growing more slowly than noninpatient physician expenditures, they are large enough in absolute dollars and growing rapidly enough to constitute a major budgetary problem.

Table 1 compares the growth rate of inpatient physician expenditures to that of selected major components of the federal budget. All figures in Table 1 are annualized growth rates between calendar years 1986 and 1989, deflated by the GNP deflator. Overall, total federal expenditures grew 2.0 percent in real terms. The two largest superfundations of the budget are human resources and national defense, which constituted about one half and one quarter,

⁵Previous research covered a number of important technical issues and analyses—including the linkage of inpatient hospital bills with physician bills, the calculation of relative weights for physician services by DRG, analysis of physician charges during the stay and one-month pre- and post-windows, a univariate analysis of inpatient physician charges by hospital type, a multivariate analysis of physician charges, and an analysis of growth in inpatient physician services.

Table 1

Real Growth Rates of Selected Components
of the Federal Budget, 1986-89

Component	Annualized Real Growth Rate (%)
Selected Functions of the Federal Budget	
Human Resources	2.46%
Education	3.27
Health	7.28
Medicare	3.60
Income Security	1.20
Social Security	1.98
Veterans	0.52
National Defense	-0.36
Total, Federal Budget	2.00
Components of the Medicare Budget	
Hospital	0.85
Physician	8.01
Inpatient	4.80
Noninpatient	11.27

Sources: For selected functions, President's 1992 Budget; for hospital and physician expenditure totals, unpublished data from HCFA; for components of physician expenditures, MedPAR and BMAD; and for GNP deflator, Statistical Abstract of the U. S.

Notes: All figures have been deflated using the GNP deflator, which increased at an annualized rate of 3.53 percent. Except for the components of physician expenditures, the figures had to be adjusted from a FY basis to a CY basis.

respectively, of federal expenditures in 1989. Between 1986 and 1989, human resource expenditures increased annually by 2.46 percent in real terms, whereas defense expenditures decreased by .36 percent. Of the six functions within human resources, the fastest growing ones are "health" (primarily Medicaid) and Medicare. Social security, still the largest function of all, grew annually by about 2.0 percent, reflecting primarily growth in the elderly population. Table 1 also includes real growth rates of Medicare hospital and physician expenditures. Overall, Medicare expenditures grew annually 3.6 percent. Within that growth, hospital expenditures grew less than 1 percent annually, whereas physician expenditures grew about 8.0 percent.

The growth rate of inpatient physician expenditures (4.8 percent) is greater than the growth rate of all federal expenditures (2.0 percent), human resources expenditures (2.5 percent), and Medicare expenditures (3.6 percent). The only categories in Table 1 that grew faster are health (fueled by mandated expansions of Medicaid enrollment) and noninpatient physician expenditures.

Inpatient physician expenditures per admission grew in nominal terms from \$959 in 1986 to \$1,215 in 1989, or at an annualized rate of 8.2 percent (Miller and Welch 1992).⁶ Table 2 decomposes this growth into volume and intensity of services per admission, price of services, and casemix changes. Volume and intensity is traditionally calculated as the residual after deflating for Medicare prices. We use the physician price index (based on allowed charges) from the Supplemental Medical Insurance (SMI) Trustees' Report (Tables A3-A4) to deflate for Medicare price (SMI 1991). Between 1986 and 1989, Medicare prices increased at an annualized rate of 2.5 percent, which is comparable to the growth in the Medicare Economic Index (MEI)

⁶By way of comparison, Mitchell (1991, Table 1-1) found that inpatient physician expenditures in 11 states grew 11.8 percent per year between 1986 and 1988. The figure of 8.2 percent relates to the growth rate of 4.80 percent in our Table 1 as follows: the GNP deflator grew at an annualized rate of 3.53 percent and the number of admissions (not the admission rate) grew at .3 percent. Hence, nominal expenditures increased at 8.5 percent ($1.0480 \times 1.0353 = 1.085$), and nominal expenditures per admission increased by 8.2 percent [$(1.085/1.003) = 1.082$].

Table 2

Decomposition of Growth Rates of Nominal
Expenditures per Admission, 1986-1989

Variable	Annualized Growth Rate
Inpatient physician allowed charges per admission (A)	8.2%
Trustees' price index (B)	2.5
Volume and intensity (A/B)	5.6
Casemix index (C)	2.2
Volume and intensity, casemix-adjusted (A/B/C)	3.3

Sources: Payment per admission and casemix index, MedPAR and BMAD;
Trustees' price index, SMI (1991).

Note: The Trustees' price index was adjusted from a FY basis to a CY basis.

(2.2 percent) and the GNP deflator (3.5 percent). After deflating, real inpatient physician expenditures per admission increased 5.5 percent annually or 17.4 percent between 1986 and 1989. This is our measure of volume and intensity growth. For simplicity, we use the term "intensity" as equivalent to "volume and intensity per admission" in the rest of the paper.⁷

In principle, this increase in intensity could also reflect changes in the patients being admitted and treated (i.e., casemix). To calculate the impact of casemix, we developed a set of relative weights for each DRG using deflated allowed charges for physician services and calculated casemix values for each medical staff based on the proportion of admission by DRG (Miller and Welch 1991). Between 1986 and 1989 according to our estimates the physician-services casemix increased at an annualized rate of 2.2 percent. Therefore, adjusted for casemix, service intensity increased 3.3 percent per year or 10.2 percent between 1986 and 1989.⁸

BASIC CHARACTERISTICS OF A MEDICAL STAFF POLICY

The answers to four questions help define the basic characteristics of a system to control physician service volume focused on the medical staff of a hospital.

1. Who would be included in a hospital medical staff risk pool? The pool would consist of all the physicians practicing in a hospital. Physicians with clinical privileges at more than one hospital would be in a risk pool in each hospital. Physicians on average have privileges at two

⁷Our research to date has depended on deflated physician charges to measure volume and intensity. Given that the Medicare fee schedule has been finalized, our future work will use relative value units (RVUs) per admission as the measure of intensity.

⁸This figure is conservative, because it also includes increases in measured casemix that reflect coding change under PPS. Carter, Newhouse, and Relles (1990) conclude that a quarter of the increase in the casemix index reflects coding change. This implies that a true increase in casemix of 1.6 percent and a true annual increase in casemix-adjusted intensity of 3.9 percent. Because the extent of the coding change under PPS is still a source of great controversy, we choose to adjust only for measured casemix change.

hospitals but admit most of their patients to one hospital (Gaffney and Glandon 1982). Any particular hospital risk pool would be at risk only for the services delivered in that hospital, and any penalty or reward would apply only to services delivered in that hospital. This is analogous to potential membership in more than one Independent Practice Association (IPA).

It would not be necessary to compile lists of medical staff memberships for such a system to work. The Medicare claims processing system would automatically link physician bills to admissions and hence to medical staffs by beneficiary IDs and dates of services.⁹

2. What would medical staffs be at risk for? A medical staff would be at risk for all physician services delivered during an admission at that hospital. (The possibility of including services delivered immediately prior to admission or subsequent to discharge is described later in the paper.)

3. How would the performance of the medical staff be evaluated? The volume performance standard would be defined in terms of RVUs (relative value units) per admission. Use of RVUs is consistent with the Medicare Fee Schedule. RVUs per admission would be adjusted for casemix using DRGs, in the same manner as for Medicare PPS. Other adjustments for such things as teaching activity or serving large numbers of poor and uninsured patients could be made if deemed appropriate.

4. How would reimbursement be made? There would be minimal change in the current system under a medical staff approach to service volume control. Physicians would continue to submit bills as they do now. The only difference would be that payment for each bill would be adjusted according to the penalty or reward assessed for the hospital in which the service was delivered.

⁹All services covered by a global surgery fee would be treated as having been delivered on the date of surgery.

MEDICAL STAFF POLICY STRATEGIES

This section discusses three alternative strategies that use a medical staff risk pool to control inpatient physician intensity. The first, our preferred strategy, would limit payments only for medical staffs whose intensities were substantially above the national average. The second would adjust the fees of each medical staff up or down according to growth in the intensity of the physician services provided by that medical staff. The third would establish a per-admission budget for physician services. Each of the strategies has a precedent in Medicare hospital payment policy.

High-Cost Medical Staff Policy. This strategy would limit payments if a medical staff's adjusted average RVUs per admission in 1992 were greater than the threshold of, for instance, 120 percent of the national average RVUs in 1992. RVUs per admission would be adjusted for casemix and could be adjusted for other hospital characteristics (e.g., teaching status) based on our previous work. Medical staffs with performance standards at this level or higher would be designated "high cost." (Obviously the choice of threshold is a policy decision; we selected a conservative threshold of 120 percent to make our discussion concrete.) Medicare would then withhold, say, 10 percent of payment for any physician service linked to an admission in that hospital in 1994. In 1995, the amount of money withheld in 1994 would be used to cover 1994 intensity in excess of 120 percent of the 1994 national average. Any remaining withheld amounts (plus interest) would be returned to members of a medical staff according to their respective proportions of total RVUs for that medical staff. Withhold mechanisms are common in IPAs.

A high-cost medical staff policy has two precedents. The first is Section 223 of the 1972 Medicare Amendments, which was Congress' first attempt to control hospital facility costs. Implemented in 1974, Section 223 applied only to routine costs (e.g., room, board, and nursing services) and were adjusted for urban-rural location, number of beds, and per capita income (later

replaced by a wage index). No adjustment for patient mix was made because no casemix index was available. Section 223 reimbursed adjusted costs, but only up to a ceiling of 112 percent of the national average. A second precedent is the Omnibus Budget Reconciliation Acts (OBRA) of 1989 and 1990, which affected specific physician procedures that substantially exceed a national price cap (referred to as "overpriced procedures"). We will discuss below an initial policy option that reduces payments to high-cost medical staffs.

Medical Staff VPS. This strategy would adjust the fees for intensity growth. As under the current VPS, there would be a single, national performance standard. However, unlike the current VPS, the fee adjustment would be specific to the medical staff depending on its performance. Depending on growth in RVUs per admission (adjusted for casemix and other hospital characteristics) between a base year and a performance year, physician fees for a given medical staff would be adjusted upward or downward in a year subsequent to the performance year. For instance, if the increase in RVUs per admission for a medical staff exceeds the target rate of increase by 1 percentage point in a given year, the update factor for all bills submitted by that staff would be lowered by 1 percentage point in a subsequent year.

The disadvantage of a *pure* medical staff VPS such as this is that it would soon become apparent that medical staffs with historically expensive styles of practice were advantaged. A pure VPS would allow the same *growth* rate across all medical staffs regardless of their different *levels* of average RVUs. This would be unfair, because costly staffs (with above average RVUs per admission) presumably have more services of questionable worth than do lean staffs and could thus more easily reduce their rates of growth.

A VPS could be designed to mitigate this problem by placing limits on the acceptable *level* of, as well as limits on the acceptable *growth* of, average RVUs. The hospital payment policies contained in the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) are a precedent

suggesting a limit on the level of average RVUs at 112 percent of the national average RVUs. The level limits could define a floor as well as a ceiling for the applicability of growth targets. Below the floor, a medical staff would not be penalized for any RVU growth until the staff raised its RVU level above the floor. Above the ceiling, a medical staff would not be rewarded for low RVU growth until it reduced its RVU level below the ceiling. VPS would be in effect within the corridor between the floor and the ceiling.¹⁰

Per-Admission Budget for Each Medical Staff. Analogous to the Prospective Payment System (PPS), this strategy would use DRGs as the basis for establishing a per-admission budget for physician services (Welch 1989). Unlike "physician DRGs," which would place the attending physician at risk for the physician services associated with an admission (see Mitchell 1985), and which were rejected in the mid-1980s, a per-admission budget would place the *entire* medical staff at risk for the physician services associated with admissions. In principle, Medicare could pay the medical staff as an entity. However, few medical staffs are structured to take fiduciary responsibilities. In a sense, there is no one who could cash Medicare's check. Hence, to establish a per-admission budget, Medicare would have to use a withhold mechanism.¹¹

Medicare could continue to pay physicians directly for inpatient services, but payments would be based on the average RVUs in a year (adjusted for casemix and other hospital characteristics). When paying physicians, however, Medicare would withhold a specific

¹⁰In thinking about ways to give physicians incentives to exercise judgment in providing their services under Medicare, it is important to note that Congress chose PPS to control the *level* of payment for hospitals (with growth controls reserved for the annual update), whereas it chose VPS to control *growth* of payment (reserving level controls for the Medicare Fee Schedule). PPS bases payments on a measure of what the level of a hospital's costs of providing care should be, given its particular characteristics. Since VPS is only concerned with growth, it can only affect fee levels over time.

¹¹Mitchell and Ellis (1992) propose a payment approach, recognizing that "such an approach would obviously require the creation of new financial and organizational structures at many hospitals." However, they ignore the fact that Medicare needs a mechanism "to get from here to there." Our withhold mechanism would allow a medical staff policy to be implemented, and would stimulate the organizational development of medical staffs. At some point in the future, Medicare might be able to write checks to medical staffs and have them cashed.

proportion (e.g., 10 percent) of each physician's payments during the year. At the end of the year, the difference between the medical staff and the nation in terms of adjusted average RVUs would be calculated. The medical staffs' surplus (or deficit) would then be prorated among members of the staffs according to their charges. If the medical staff performed well, all the withheld payments (plus interest) would be released to physicians. If the medical staff performed poorly, an appropriate portion of the withheld payments would be retained by Medicare.

HIGH-COST MEDICAL STAFFS--THE MOST PROMISING STRATEGY

Of the three possible medical staff-based strategies outlined above, we believe the high-cost medical staff policy--with Section 223 serving as a precedent--is the most promising initial policy. Three basic reasons led to this conclusion. First, there are few precedents for physicians on a medical staff being held jointly responsible for inpatient physician expenditures. Implementing such a policy nationally could be criticized on the grounds that the impact on hospital-based physician care is unknown. While a medical staff VPS or per-admission budget policy would presumably affect most staffs in the country, a high-cost medical staff policy, by design, would affect a minority of staffs--the group that is generally recognized as well above the norm. A policy for high-cost medical staffs only, therefore, assures that the impact of the policy is limited to a few hundred hospitals, giving it some of the advantages of a demonstration.

Second, if successful, a policy aimed at high-cost medical staffs could evolve easily by covering higher proportions of physician services, simply by reducing the high-cost threshold. Since the policy involves a withhold mechanism (discussed in more detail below), it could even move to a per-admission budget policy for all hospitals, once the high-cost threshold approached the national average and the impacts on hospitals were better understood. Third, like the

overpriced procedure policy, a high-cost medical staff policy is intuitively understandable by policymakers, hospitals, physicians, and the general public.¹²

A high-cost medical staff policy could be designed as follows (some of these provisions are discussed in more detail in the next section):

- A medical staff's RVUs per admission would be adjusted for casemix and could be adjusted for teaching status and disproportionate share status.
- Small hospitals (with 50 beds or less, for instance) could be exempted from this policy because of variability arising from small numbers of admissions.
- RVUs for each admission could be truncated for outliers, reflecting, for example, a 4 percent outlier pool. This would protect staffs from a few high-cost cases and help protect access for very sick beneficiaries.
- Beneficiary liability could remain unchanged.¹³
- In order to allow them to successfully control volume and intensity, medical staffs could be exempt from antitrust liability due to cost containment actions.
- Medicare claims data could be made available to the medical staff to assist in cost containment through physician profiling.

While unlikely to engender support among physicians as a group, this proposal would have several components likely to mitigate physician opposition compared to other cost-containment policies:

¹²A policy aimed at high-cost medical staffs has two more advantages. First, if the claims processing system failed to identify some proportion of inpatient physician services, there is a risk of returning too much of the withheld payment to a medical staff. However, there is no danger of increasing expenditures relative to the status quo. This is important, because newly implemented policies often run into administrative problems.

Second, although not a VPS policy, a high-cost medical staff policy could be conceptually linked to a national VPS. Under current law, any decrease in physician expenditures due to a policy change--such as lowering of the conversion factor--does not help physicians meet the VPS standard. For the medical staff policy, a different approach is possible: any decrease in physician expenditures due to the high-cost medical staff policy--either due to a drop in intensity or unreturned withholds--would *not* be treated as the result of a policy change. That is, the policy could be designed to help physicians meet the national VPS.

¹³Proposals for "physician DRGs" have usually included mandatory assignment, that is, a prohibition of balance billing (e.g., Mitchell and Ellis 1992). Because of recent legislation, a physician can increase his or her payment by no more than 9.25 percent by balance billing. The necessity of mandatory assignment is open to debate.

- The policy would be directed toward medical staffs that are outliers or "bad apples."
- The Medicare program would have the information to develop physician profiling, which would provide staffs with the tools to identify the sources of high intensity among their staff members or by type of service.
- Savings resulting from the policy could help physicians meet the national VPS standard.

DESIGN ISSUES

Several issues need to be addressed to develop a high-cost medical staff policy, most of which are relevant to any policy based on the medical staff as the risk pool. Before discussing them in detail, it is important to have a firm grasp of the administrative chronology of a high-cost medical staff policy.

The first two rounds of the system, for a policy implemented in 1994, would work as follows. ROUND 1: In 1993, HCFA would determine which medical staffs would be designated high cost, based on 1992 performance. In 1994, HCFA would apply a withhold for services delivered in 1994 by those medical staffs. In 1995, HCFA would return the appropriate portion of the 1994 withhold--penalizing staffs *only if* they were designated high cost on the basis of 1992 performance *and* were high cost again based on performance in the withhold year (1994). ROUND 2: In 1994, HCFA would make a new designation of medical staffs as high cost, based on 1993 performance. In 1995, HCFA would apply a withhold for services delivered in 1995 by those medical staffs. In 1996, HCFA would return the appropriate portion of the 1995 withhold--again penalizing medical staffs *only if* they were designated high cost on the basis of 1993 performance *and* were high cost again based on performance in the new withhold year (1995). And so on for subsequent rounds.

Using a Withhold versus a Delayed Fee Adjustment

As enacted, VPS adjusts physician fees in the second year following the performance year. A lag in fee adjustment dampens incentives to control volume, however, by distancing rewards and penalties from the behavior itself. Rather than using a lagged fee adjustment, the high-cost medical staff policy would use a withhold, a mechanism used widely by IPAs.

Under a high-cost medical staff policy, Medicare would pay physicians as before except that, for services delivered during a hospitalization, 10 percent (for example) of the fee could be withheld for those medical staffs identified as high-cost. At the end of the year, Medicare would calculate the high-cost medical staff's performance (i.e., RVUs per admission), the national average RVUs per admission, and the "high-cost" threshold (e.g., 120 percent of the national average).¹⁴ Depending on the medical staff's performance, the withhold would either be retained or returned by Medicare (fully or in part, with interest) to the medical staff physicians in proportion to their RVUs. The portion of the withhold returned to the medical staff would be determined so that Medicare would pay the medical staff no more than 120 percent (for example) of the national average.¹⁵ In other words, high-cost medical staffs would not be at risk for services provided up to the high-cost threshold. Thus, no more than the withhold (plus interest) would ever be returned, which avoids creating an incentive to provide insufficient care.

¹⁴Alternatively, the threshold could be set prospectively, using a base year plus an acceptable growth rate. For instance, if RVUs per admission historically grew 3 percent per year, the threshold for 1994 could be set at 120 percent of the national average in 1992 allowing for, say, 2 percent annual growth. This would presumably yield a lower threshold than a retrospectively set one. It would also avoid a major design flaw of VPS, namely, that excessive growth in a given year is incorporated into future standards.

¹⁵We recognize that in extreme cases a 10-percent withhold could be inadequate. If a staff had intensity of exactly 133.3 percent, its intensity minus a 10-percent withhold would be 120 percent. Whether its intensity was 133.3 percent of the national mean or higher (e.g., 140 percent), the penalty would be the same: a medical staff would lose the entire withhold. Hence, with intensity above 133.3 percent, not all of the overrun would be covered by the withhold. Although this might be deemed a weakening of incentives, it serves to protect a staff from instability of intensity over time, as noted below.

A withhold has several advantages over a delayed fee adjustment. First, the financial impact on physicians, occurring sooner, reinforces the cost-containment incentives. The withhold (or portion thereof) could be returned by the middle of the year following the performance year (in our Round 1, withholds could be returned by mid-1995), whereas a fee adjustment would not start until after the end of the year following the performance year (in our example, January 1996). Second, a withhold would alleviate any concern that physicians might switch medical staffs between the performance year and the year the fee adjustment is applied. Third, since performance would vary by medical staff, the actual payment amount under the MFS would vary. Mechanically, differential payment amounts could require different conversion factors (i.e., one for each medical staff). A withhold allows Medicare to use a common conversion factor, which is easier to articulate as a policy. Fourth, a medical staff policy using a withhold could more easily evolve into a per-admission budget approach (discussed briefly above).

Administering a withhold is more complex than a subsequent-year fee adjustment, because it involves additional payment to physicians. However, HCFA's new claim processing system--the Common Working File (CWF)--was fully operational by the end of 1990 and its streamlining of claims processing makes a withhold more feasible. Two mechanisms, both possible with the current data collection, are needed to administer the withhold: the physician would report the hospital ID where the service was performed on the physician bill, and HCFA would use the CWF to link physician and hospital bills in real time.¹⁶ The first mechanism is simple, does not overly burden the physician, and greatly reduces the administrative complexity of the policy. The

¹⁶One additional step could be taken. Prior to implementation, Medicare could publish in the Federal Register a list of high-cost medical staffs. Hospitals would be required to inform the intermediaries within two days of any Medicare admission (as they were required to do before PPS).

second mechanism enables HCFA to check physician bills and allows the withhold to apply to windows around the hospital stay if the policy were to include windows.

The Issue of Windows

There are two motivations for including pre- and post-windows in a medical staff policy. (See Miller and Welch (1991) for a complete discussion of physician charges in windows around the inpatient stay.) First and most importantly, they forestall unbundling of services outside the hospital stay. If physicians are put at risk for services provided during the stay, they will have an incentive to unbundle services. Second, including windows captures a greater percentage of physician services. Based on 1987 (deflated) charges, 38 percent (\$10 billion) of physician charges are associated with the hospital stay, while 46 percent (\$12 billion) are associated with the hospital stay plus four-week pre- and post-windows.

The distributional consequences across medical staffs of including four-week pre- and post-windows are small. That is, medical staff types (i.e., urban vs. rural, teaching vs. nonteaching) do not fare better or worse when windows are included. Thus, the policy design decisions regarding windows need not be strongly influenced by concerns for distributional equity. One concern raised by defining an episode around the stay is that medical staff physicians would be placed at risk for services delivered by physicians not on that staff. Our analysis of this issue indicates that nonstaff charges in the windows are small: less than 5 percent of the stay and window charges taken together (Miller and Welch 1991). Neither the distributional nor the nonstaff factor points to major technical problems in defining windows for policy purposes.

Three additional considerations lead us to suggest that a medical staff policy should not have windows at least initially. First, there are problems with operationalizing a pre-window for medical admissions: services may be provided in an attempt to keep a patient *out* of the hospital,

for which the medical staff could be held responsible only if the patient is ultimately admitted. Second, the administrative complexity for carriers is compounded if a pre-window is present. Services can only be linked with a hospital admission after the admission takes place, by which time the physician may already have been reimbursed for pre-admission services. Both considerations would suggest eliminating *pre*-windows on clinical and administrative grounds. Third, although nonstaff charges appear to be small, staff physicians could still perceive the inclusion of these services in the window as unfairly putting them at risk for services delivered by physicians over whose behavior they had no control.

Thus, we suggest implementing the high-cost medical staff policy without windows, but with the proviso that unbundling should be monitored. If some window is judged desirable, we suggest incorporating a post-window in the first generation of the policy and monitoring its effects. Our previous research--using a panel of physicians charged with identifying the proportion of post-hospital stay charges that are appropriately linked to an admission--suggests that a 3-4 week window captures most of the related services and includes relatively few unrelated services.¹⁷

Exempting Small Hospitals

Having fewer admissions per year, the medical staffs of small hospitals presumably have a higher variance in RVUs per admission from year to year. Relative to the medical staffs of large hospitals, their measured performance in any single year is more likely to be influenced by random variation at the admission level. Our analysis shows that small hospitals have lower

¹⁷In the Medicare Fee Schedule, fees for major surgery include clinically related services delivered by the surgeon during a post-operative period of 90 days. Other services are payable outside of the global fee. To be administrable, a post-window must capture all physician services in the period. Hence, a global fee post-operative period can be defined longer than a post-window.

physician charges per admission and that physician charges in small hospitals do not appear to vary proportionately with casemix, unlike charges in large hospitals. For both reasons it may make sense for a medical staff policy to treat medical staffs in small hospitals differently from those in large hospitals. There are at least two options in this regard. Medical staffs in small hospitals could be exempted altogether, or the policy could recognize only part of the difference between the actual performance of medical staffs in small hospitals and the standard.

We suggest the simpler approach of an exemption for hospitals with fewer than 50 beds because they account for a very small proportion of charges. Such hospitals constitute 48 percent of rural hospitals and 27 percent of all hospitals, but account for only 2.6 percent of physician charges (1987) nationwide. Hospitals with fewer than 100 beds constitute 78 percent of rural hospitals and 48 percent of all hospitals, but only account for 9.5 percent of all charges. We are currently analyzing the stability of RVUs per admission over time at the hospital level, which will provide further evidence on which to make a decision about whether to exempt small hospitals.

Outlier Costs

PPS defines outlier cases and reimburses the hospital more than the DRG payment amount. An outlier policy protects the hospital from the impacts of a few high-cost cases and assures that access is not denied to high-cost beneficiaries with potentially complex medical conditions. Similarly, a high-cost medical staff policy might recognize high-cost admissions. Under an outlier policy, any RVUs above such an outlier threshold could be excluded from the performance standard. That is, when performance is calculated, the actual RVU of each outlier admission would be truncated at the outlier threshold.

Consistent with the recent changes in PPS, we recommend that outliers under a medical staff policy be defined in terms of RVU costs (as opposed to days). An outlier threshold of 2.5 times the DRG mean results in an outlier pool of about 4 percent of inpatient physician charges, which compares well with the PPS outlier pool of between 5 and 6 percent (Miller and Welch 1991). Our earlier analysis of outlier costs indicated no distributional impact across medical staffs in different hospital types from such an outlier policy. Again this suggests that the policy can be considered without concern for any distributional impact.

Stability of Intensity over Time

So far we have referred to "high-cost medical staffs" as if each medical staff had the same performance year after year. Suppose, however, that a medical staff's performance--adjusted average RVUs per admission--varied substantially from year to year for no apparent reason, just as volume and intensity is unstable at the state level (Cahill et al. 1989). In that case, the performance of a staff and the withhold returned to it would be largely the result of chance rather than deliberate practice style. The rationale for any medical staff policy would be weakened, as would physician morale.

We are currently studying the issue of stability.¹⁸ Regardless of the analytical results, instability is probably less of a concern with the high-cost medical staff policy we develop here than with a medical staff VPS that covers all hospitals. This is because the high-cost policy as we specify it has a built-in safeguard against variability, in that a medical staff must be above the threshold in both the designation year and the withhold year for its final payment to be reduced. A one-year fluctuation would be insufficient to cause a medical staff to be penalized.

¹⁸This issue requires the creation of a special data base. All admissions and related physician bills (as opposed to a sample) for a given set of hospitals must be analyzed.

In addition, under a high-cost medical staff policy, the withhold serves as a built-in cap on liability for each medical staff. That is, no staff can lose more than the withhold.¹⁹ By way of contrast, under physician DRGs, the attending physician is liable for the difference between the cost of an admission and the payment, a difference with no theoretical upper limit.

RELATED ISSUES

This section discusses several other issues that need to be considered in assessing the merits of a high-cost medical staff policy, most of which concern the reactions of physicians to such a policy initiative. Two points should be kept in mind when assessing the likely force of such reactions. First, the policy would apply to Medicare admissions only (one-third of the total). To the extent that a physician has a single style of practice for all patients, the fact that he or she also has non-Medicare admissions would moderate any reaction to such a policy. Second, the direct incentive for an individual physician in most hospitals would be weak; most changes would take place only as medical staffs were restructured to respond to them as a unit. Both factors would tend to temper physician reactions.

Quality of Care

There is always fear that cost controls will reduce quality of care. In spite of the fact that physicians would not profit as individuals from reducing services under a high-cost medical staff policy, the issue of quality of care will be raised because they would be financially better if services are provided conservatively.²⁰ The quality of care concern can be minimized in the

¹⁹This cap can be thought of as a staff-level outlier policy.

²⁰The issue of quality care should not be discussed solely in terms of incentives. The professional socialization of physicians emphasizes quality, which dampens any tendency toward cutting quality. In fact, this tendency, which can be helpful when there are incentives to contain costs, is a major problem when there are

case of a *high-cost* medical staff policy, because the policy would not reward medical staffs for reducing intensity to the national mean, much less below the national mean. Rather, it would only give them an incentive to reduce intensity to the threshold, perhaps 20 percent *above* the national mean. (We note that this argument does not generalize to other medical staff policies, such as a per-admission budget policy or a VPS policy.)

Medical Staff Affiliation and Switching

In an ideal set of risk pools, a physician would be on a single medical staff, so his or her incentive to control costs would not be diluted over several risk pools, and any shift of patients from one staff to another would not harm cost containment and might even strengthen it. Both conditions appear to roughly hold under a high-cost medical staff policy.

In 1982, physicians had clinical privileges at an average of 2.1 hospitals (Musacchio et al. 1985). In 1978 (the latest available data), 89 percent of a physician's admissions were to his or her primary hospital (Gaffney and Glandon 1982). Thus, physicians whose admissions are primarily at a single hospital appear to be the norm.

Since the Medicare per-service payment in high-cost medical staff hospitals under this policy would be less than that in other staffs, although total payment (per-service payment times quantity) would be higher, the application of the withhold would decrease physicians' preference for admitting patients to high-cost staffs. We thus expect some shifting of admissions and physicians into moderate- or low-cost medical staffs in the long run. The incentive to shift is likely to be greater for those specialties with a high proportion of their services being delivered to Medicare beneficiaries in the hospital, e.g., cardiologists versus family practitioners.

The shifting of patients from one hospital to another could occur through two mechanisms. First, physicians who are affiliated with two or more medical staffs could direct increasing proportions of their patients to one hospital. Second, physicians could change the hospitals with which they are affiliated, and their patients, if choosing to stay with those physicians, would be admitted to the new hospitals.

There are two general explanations for why certain medical staffs are high cost. One, certain physicians may be high cost regardless of the staffs with which they are affiliated.²¹ These physicians would have limited ability to be accepted into a different staff because they are likely to raise the intensity (RVUs per admission) of the medical staffs they join. They are also likely to come under peer pressure at their current hospital to contain costs. Two, certain hospitals and their staffs may have attributes (even after adjusting for characteristics such as teaching status) that make them high cost regardless of the physicians affiliated with them. To the extent that certain staffs are high cost, physicians may be encouraged to move their admissions elsewhere. Any decrease in the admissions of these hospitals should decrease volume and intensity of physician services. And a loss of admissions and hospital revenues would encourage cooperation between the hospital administration and medical staff to control costs.

Any shifting of admissions among hospitals has two possible implications. On the one hand, shifting would strengthen cost containment because admissions would move from high-cost to moderate- or low-cost medical staffs. This accepts, in part, the second explanation above--that certain hospitals and their staffs are high cost regardless of the physicians affiliated with them.

²¹Of course, a physician might have high average RVUs per admission because of patient characteristics. Although we cannot completely rule out patient characteristics as a determinant, a policy would adjust intensity for casemix and could adjust for hospital-level characteristics, such as teaching status.

On the other hand, large-scale admission switching could place a hospital in a nonviable position.²²

We do not think this would in fact be a problem. Although the discussion so far has presumed that physicians can switch medical staffs easily, both economic theory and institutional facts suggest otherwise. Theoretically, a physician's affiliation with a medical staff entails a decision by the medical staff as well as by the physician (cf. Pauly and Redisch 1973). Given that the switching of physicians among medical staffs is a market with two sides, physicians with conservative styles of practice would presumably be more welcomed by medical staffs than other physicians, if a medical staff policy were implemented.

Several institutional factors mitigate against switching: (1) patients prefer hospitals close to their homes--physicians, therefore, risk losing patients if they leave the staff of one hospital to join the staff of another; (2) physicians prefer hospitals that are close to their offices--moving hospitals is likely to increase the distance between the two; (3) physicians prefer hospitals with which they are familiar; and (4) applying for staff privileges is not cost-free for the applying physician, reviewing such applications is not cost-free for the staff, and the outcome of a particular application may not be clear in advance, further reducing the incentive to apply.

Physician Profiling

For a medical staff to modify the behavior of its physician members, it needs management tools and information on the utilization of services by its physicians. Physician profiling is such

²²The concern of hospitals becoming nonviable may be most serious in the case of inner-city, public hospitals, which often represent the "last resort" for care. As noted above, RVUs per admission could be adjusted for disproportionate share status. Our previous research found that hospitals serving a disproportionate share of the poor tended to have higher than average charges per admission in 1987. If this pattern is confirmed by later data, the policy could recognize these hospitals through a disproportionate share adjustment. Such an adjustment would reduce the threat to inner-city hospitals serving the poor.

a tool. Physician profiling analyzes individual physicians or groups of physicians to identify a pattern of practice, which is then compared to the patterns of other physicians. The Physician Payment Review Commission (PPRC 1992, chapter 10) recommended physician profiling for both cost containment and quality assurance.

Recent data and claims processing improvements allow development of profiling for inpatient physician services. This process is now underway. The key variable is casemix-adjusted RVUs per admission. Once the attending physician is identified, the average RVUs of his or her admissions can be calculated and compared to the average of other physicians in the same hospital, the same state, and the nation. In addition, profiling can be disaggregated by type of service; for instance, physicians could be compared in terms of the diagnostic services that they order. Profiling could, thus, identify those types of services (e.g., consultation or advanced imaging) in which intensity exceeded state or national norms.

Economic Credentialing and Antitrust Considerations

To practice in a hospital, a physician must be given clinical privileges. For a hospital to be accredited, its medical staff must follow certain standards in giving clinical privileges (JCAHO 1992). Three aspects of the standards are worth mentioning. First, practicing in a hospital involves a "privilege," not a right. Merely being a physician does not guarantee appointment to a medical staff; one's record must be reviewed. Second, a process must be established that involves forming a committee and stating criteria. Third, privileges must be renewed at least every two years. In that sense, appointment to a medical staff differs from academic tenure. In sum, the JCAHO requires medical staffs to establish the principle of reviewing the records of physicians joining the staff and those already on the staff, and to establish the process for doing so.

Much of the structure, therefore, is already in place for weeding out physicians who do not practice cost-effective medicine. This is termed "economic credentialing," which can pertain to new applicants for privileges or physicians already on the staff. There are some

"difficult legal, political and practical issues that are currently associated with economic credentialing. However, some hospitals have already begun to work with their medical staffs to analyze physician practice patterns in an attempt to control costs. It is likely that hospitals will soon integrate economic criteria into the credentialing process." (National Health Lawyers Association 1991, p. 290)

It is unlikely that a sizable proportion of physicians would lose their privileges, but the threat of losing privileges would allow mechanisms such as physician profiling to have a major impact.

Because physicians within a medical staff may compete against one another, denying hospital privileges to a physician could be viewed as violating antitrust laws. The Government Accounting Office (GAO 1991, p. 5) has reviewed this issue and concluded, "Hospital peer review . . . is likely to violate the law only when the process is abused. In fact, peer review is arguably pro-competitive in many situations." NHLA (1991, pp. 80-81) agreed, noting the antitrust cases in credentialing are greatest when there is only one hospital in a community. Peer review is necessary to efficiently operate hospitals as competitive enterprises. Antitrust law probably would not be a major limitation on a medical staff's ability to select its members. However, giving staffs explicit (but limited) immunity from antitrust liability would encourage staffs to more actively contain costs.²³

This could be done in the same way that the Health Care Quality Improvement Act of 1986 conferred limited immunity on physicians engaging in specific types of peer review (Blumstein and Sloan 1988, p. 32; NHLA 1991, p. 77). To qualify participants for immunity, peer review

²³Bills providing hospitals with antitrust immunity have begun to receive attention in Congress.

action must be taken in the belief that quality of care will be enhanced and must offer adequate hearing procedures to the affected physician.

CONCLUSION

As noted earlier, a medical staff risk pool could take several strategies: it could be a per-admission budget like PPS, a staff-specific VPS, or a high-cost medical staff policy. The primary strength of a medical staff policy is that it would combine incentives with structure. Since hospitals need a formal process of giving clinical privileges to physicians in order to obtain accreditation (JCAHO 1992), the membership of a medical staff is already delineated. Although this structure is insufficient for medical staffs to completely control the behavior of their members, it is a good starting point for implementation of a medical staff policy.

Physicians practicing in major teaching hospitals already have the structure to transfer group-level incentives to individual physicians (e.g., faculty practice plan).²⁴ This would allow a university hospital to quickly respond to the policy by controlling intensity and, in turn, to train physicians in a more cost-conscious environment. Although currently not as highly organized, physicians practicing in a community hospital, as a group, would have an incentive to strengthen their structures. Initially, this might take the form of reviewing applications for privileges, applying peer pressure to the few high-cost practitioners on a staff, and judging whether new capital equipment might increase physician intensity. Later, medical staffs might strengthen the power of their directors to implement profiling and utilization review. In sum, medical staffs have enough structure to implement a cost-containment policy, which would in turn stimulate the development of more structure.

²⁴ Our report elaborates on how medical staffs are likely to respond to an medical staff policy.

One longer term advantage of a medical staff policy, which may not be obvious, is its potential impact on Medicare Part A expenditures. Part A expenditures (hospital services) are about four times as high as Part B expenditures for in-hospital physician services--about \$50 billion versus about \$12 billion in 1987. Expenditures on hospital services appear to be complements to, rather than substitutes for, expenditures on in-hospital physician services.²⁵ That is, slower growth in one tends to be accompanied by slower growth in the other. Thus, a medical staff policy that is successful in controlling inpatient physician service costs may help control hospital facility costs as well.

An important implementation issue is how the impacts of a high-cost medical staff policy would be monitored. Perhaps the greatest concern here is the possibility that such a policy would increase admissions. (This is not a foregone conclusion, given that hospital admissions, contrary to expectations, did not increase under PPS.) Monitoring changes in admissions should, therefore, be high priority. Unbundling--the shifting of services into the periods immediately prior to or subsequent to a hospital stay--should also be monitored. If it is determined to be a problem, medical staffs might be made responsible for services delivered in windows as well as during the stay. In addition, HCFA should monitor large-scale shifts in admissions among hospitals that could make certain hospitals nonviable, decreases in physician services per admission because of its centrality to the policy, and outcome measures for quality of care.

If, after such monitoring and analyzing, a high-cost medical staff policy is found to be successful in controlling intensity without harmful impacts, the policy would be in a position to

²⁵Both Holahan, Dor, and Zuckerman (1991) and Menke (1990) found that PPS acted to reduce physician expenditures, suggesting hospital and physician costs are complementary. Recently, Medicare has contracted with four hospitals for coronary-bypass surgery (Winslow 1992). Medicare makes a predetermined payment in the form of one check to the hospital and one to physicians. Physicians are responding by containing physician costs; in particular, consultations are down by 25 percent. Physicians are also working with the hospitals to control facility costs.

evolve in several directions. Within Medicare, evolution would most likely include a lowering of the high-cost threshold toward the mean to include a greater proportion of the hospitals in the policy. Another refinement might be to designate certain medical staffs as "very-high-cost" (using a higher threshold) and to apply a higher withhold to them. As the threshold is lowered and more hospitals are affected, a high-cost medical staff policy becomes similar to a per-admission budget policy.²⁶

The policy could also be extended to surgery performed in hospital outpatient departments (HOPDs) and ambulatory surgical centers (ASCs). Because the facility bills for outpatient surgery have been of lower quality than the bills for inpatient stays, making it more difficult to link services and physicians, implementation problems suggest that a first-generation medical staff policy exclude HOPD surgery (Miller and Welch 1991). A second-generation policy could expand the services in the risk pool to include those delivered immediately following discharge, that is, in a post-window. A second-generation policy might also include ways to strengthen the medical staff as an organization. For instance, the medical staff utilization review committee could be empowered to recommend denial of certain claims. Or within large medical staffs, risk pools might be established around departments.²⁷

A high-cost medical staff policy could evolve beyond Medicare. In principle, a high-cost medical staff policy could be embedded in an all-payer system. This would give the physicians

²⁶The two policies would still differ. Under a high-cost medical staff policy, a medical staff would never receive more than the withhold after its performance year. However, under a per-admission budget policy, a medical staff whose intensity was below the standard would receive the difference between the performance standard and the actual performance, plus the withhold.

²⁷After several years of implementation, the HCFA data systems may be in a position to calculate performance semiannually instead of annually. This would link performance more closely to penalties and rewards.

on a high-cost medical staff the incentive to control the volume and intensity of all their admissions, not just Medicare admissions.

National global budgets have recently been proposed as a cost containment strategy. On a conceptual level, they deal with the true problem--health care costs in the aggregate. But they have no mechanism to translate national goals into physician behavior at the bedside. The danger of the global budget idea is that, while conceptually comprehensive, it has not been developed beyond the symbolic stage. Even if the country were much smaller, intermediary organizations and policies would be required. In principle, HMOs could serve this role if all Americans were enrolled in them. In the absence of complete HMO enrollment, a medical staff policy is an alternative mechanism. A medical staff policy is one way to give substance to cost containment goals. We believe it is a feasible next step in cost containment.

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